

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005865

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>7</sup> C07D333/46, A61K31/381, 35/78, A61P3/04, 3/10, 43/00,  
A23L1/30, C12N9/99

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> C07D333/46, A61K31/381, 35/78, A61P3/04, 3/10, 43/00,  
A23L1/30, C12N9/99

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2004  
Kokai Jitsuyo Shinan Koho 1971-2004 Toroku Jitsuyo Shinan Koho 1994-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CAPLUS (STN), REGISTRY (STN), MEDLINE (STN), EMBASE (STN), BIOSIS (STN),  
BIOTECHABS (STN), WPI (DIALOG), JSTPLUS (JOIS), JMEDPLUS (JOIS)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                    | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X<br>Y    | Masayuki YOSHIKAWA et al., "Salacia-Zoku Shokubutsu no Polyphenol Seibun: $\alpha$ -Glucosidase Oyobi Aldose Reductase Sogai Kassei Seibun", Mangiferin, no Teiryo Bunseki, Journal of the Pharmaceutical Society of Japan, 2001, 121(5), pages 371 to 378, full text | 2, 3<br>1, 4-6        |
| X<br>Y    | YOSHIKAWA, M. et al., Kotalanol, a Potent $\alpha$ -Glucosidase Inhibitor with Thiosugar Sulfonium Sulfate Structure, from Antidiabetic Ayurvedic Medicine Salacia reticulata., Chem. Pharm.Bull., 1998, 46(8), pages 1339 to 1340                                    | 2, 3<br>1, 4-6        |

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
12 August, 2004 (12.08.04)

Date of mailing of the international search report  
31 August, 2004 (31.08.04)

Name and mailing address of the ISA/

Authorized officer

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PCT/JP2004/005865

### C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                     | Relevant to claim No. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X<br>Y    | YOSHIKAWA, M. et al., SALACINOL, POTENT ANTIDIABETIC PRINCIPLE WITH UNIQUE THIOSUGAR SULFONIUM SULFATE STRUCTURE FROM THE AYURVEDIC TRADICIONAL MEDICINE Salacia reticulata IN SRI LANKA AND INDIA., Tetrahedron Lett., 1997, 38(48), pages 8367 to 8370 <span style="float: right;">3</span>                                                          | 2,3<br>1,4-6          |
| X<br>Y    | MATSUDA, H. et al., Antidiabetic Principles of Natural Medicines., IV., Aldose Reductase and $\alpha$ -Glucosidase inhibitors from the Roots of Salacia oblonga Wall. (Celastraceae): Structure of a New Friendelane-Type Triterpene, Kotalagenin 16-Acetate., Chem.Pharm.Bull., 1999, 47(12), pages 1725 to 1729 <span style="float: right;">4</span> | 2,3<br>1,4-6          |
| X<br>Y    | JP 2000-86653 A (Rankaayurubetikkuhabu Yakuhin Kabushiki Kaisha),<br>28 March, 2000 (28.03.00),<br>Full text<br>(Family: none) <span style="float: right;">5</span>                                                                                                                                                                                    | 2,3<br>1,4-6          |
| X<br>Y    | JP 11-29472 A (Research Institute For Production Development),<br>02 February, 1999 (02.02.99),<br>Full text<br>& US 2002/0041904 A1 & US 6376682 B1 <span style="float: right;">6</span>                                                                                                                                                              | 2,3<br>1,4-6          |
| X<br>Y    | Osami KAJIMOTO et al., "Salacia reticulata Mizu Chushutsubutsu ni Okeru Kyokaigata Oyobi Keisho 2-gata Tonyobyō Shorei ni Taisuru Rinsho Koka", Journal of Japanese Society of Nutrition, and Food Science, 2000, 53(5), pages 199 to 205, full text <span style="float: right;">7</span>                                                              | 2,3<br>5,6            |
| X<br>Y    | JP 2001-103928 A (Fancl Corp.),<br>17 April, 2001 (17.04.01),<br>Full text<br>(Family: none) <span style="float: right;">8</span>                                                                                                                                                                                                                      | 2,3<br>5,6            |
| Y         | WO 01/49674 A2 (SIMON FRASER UNIVERSITY),<br>12 July, 2001 (12.07.01),<br>Full text<br>& AU 200126591 A & US 6455573 B1<br>& EP 1248779 A2 & CN 1404476 A<br>& JP 2003-519220 A & US 2003/0191104 A1 <span style="float: right;">9</span>                                                                                                              | 1-6                   |
| A         | JP 2002-104979 A (Nippon Kefia Kabushiki Kaisha),<br>10 April, 2002 (10.04.02),<br>(Family: none) <span style="float: right;">10</span>                                                                                                                                                                                                                | 5,6                   |

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category*    | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                           | Relevant to claim No. |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| P, X<br>P, Y | Masayuki YOSHIKAWA et al., "Thai-san Salacia<br>chinesis no Seibutsu Kassei: $\alpha$ -Glucosidase<br>Sogai Kassei o Shihyo to shita Hinshitsu Hyoka",<br>Journal of the Pharmaceutical Society of Japan,<br>2003, 123(10), pages 871 to 880 | 2, 3<br>1, 4-6        |
| P, X<br>P, Y | JP 2003-171299 A (Bio Venture Bank Co., Ltd.),<br>17 June, 2003 (17.06.03),<br>(Family: none).                                                                                                                                               | 2, 3<br>5, 6          |